GREAT RIVER ENERGY℠

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November 21, 2012

Via Electronic
and U.S. Mail

Mr. Terry O'Clair
Director, Division of Air Quality
North Dakota Department of Health
918 E. Divide Ave.
Bismarck, ND 58501-1947

RE: Coal Creek Supplemental NOx BART Analysis: Response to Comments

Dear Mr. O'Clair:

Great River Energy ("GRE") has reviewed the letters sent to the North Dakota Department of Health ("NDDH") by entities commenting on the NDDH's September 2012 Supplemental Evaluation of NOx BART Determination for Coal Creek Station Units 1 and 2 ("Supplemental BART Determination"). GRE hereby provides a response to those comments for NDDH's consideration.

1. LaFarge North America's October 16, 2012 Comments

Lafarge accurately describes the key issues attendant with the use of Selective Non-Catalytic Reduction ("SNCR"), the resulting fly ash contamination, and the unique non-air environmental and economic impacts that contamination would have on North Dakota. The use of SNCR will result in some fly ash being lost, and the negative environmental consequences of disposing of that fly ash and replacing it with cement (to the extent cement is even available in North Dakota) are well known. This factor is entitled to as much weight as any of the others identified by Congress (e.g., cost-effectiveness and improvements in visibility), and GRE encourages the NDDH to continue to account for it in the agency's BART determination.

2. Martin R. Schock's October 22, 2012 Comments

Mr. Schock's comments regarding NDDH's modeling technique could and should have been raised when NDDH's Regional Haze State Implementation Plan ("SIP") was circulated for public comments over two years ago or, at the latest, when it was being reviewed by the U.S. Environmental Protection Agency earlier this year. In any event, this comment highlights the NDDH's conservative approach for determining the Best

Available Retrofit Technology ("BART") for Coal Creek Station's NOx emissions by utilizing the modeling results that showed the greatest improvements to visibility as a result of the emissions limits under consideration. Although GRE believes this approach may exaggerate the improvement to visibility resulting from these emissions limits, GRE concedes the NDDH's conservative approach strengthens the NDDH's overall analysis.

3. U.S. DOI Fish and Wildlife Service's October 29, 2012 Comments

The U.S. Department of Interior Fish and Wildlife Service ("FWS") submitted multiple comments that essentially repeat its earlier October 2009 comments to NDDH. NDDH has already responded to those comments and the deadline to seek judicial review on those issues has expired. GRE agrees with FWS's statement that the Supplemental BART Determination is more robust than NDDH's prior analysis, which was itself more than adequate. GRE further agrees with the FWS's conclusion that NDDH's technical findings on such issues as the volume of fly ash likely to be ruined by SNCR, urea usage rates, and the control efficiency of SNCR are reasonable.

Although GRE disagrees with most of the FWS's remaining legal and factual assertions, GRE's and NDDH's prior submissions, along with those of other commenters, refute those assertions and need not be repeated here. GRE nonetheless notes that FWS's statements regarding Coal Creek Station's actual emissions rate and the proper retrofit factor for SNCR are not supported by any technical evidence, while GRE's numbers are based upon reported emissions data and a widely-recognized expert in installing pollution controls at power plants. Likewise, the FWS is incorrect to suggest that NDDH's ultimate conclusion regarding controls at Coal Creek Units 1 and 2 should have been different due to NDDH's finding that SNCR was BART for NOx at other units. First, BART is developed based upon the individual plant configuration and none of the plants listed in the FWS comments are currently employing DryFining™ technology, which complicates the layout of a facility and increases the cost of retrofitting it. Second, based upon the EPA Acid Rain database for 2011 and through September 2012, Coal Creek Units 1 and 2 have consistently had the lowest baseline NOx emissions rate in the state. *See* Graph of EPA Acid Rain Data, 2011-2012 (Attachment A). It is therefore more difficult to obtain cost-effective NOx reductions from Coal Creek Units 1 and 2 than at other, higher-emitting units. The fact that a given deciview improvement may be achieved at one facility in a cost-effective manner says nothing about whether that same deciview improvement can be cost-effectively achieved at another facility.

4. NPCA and Sierra Club's October 30, 2012 Comments

The National Parks Conservation Association and Sierra Club (collectively, "NPCA") also submitted comments that generally repeat legal arguments made during the earlier comment period. Again, general comments about NDDH's BART determination process could and should have been made earlier. NPCA also submitted comments from Dr. Ranajit Sahu that contain several inaccurate and unsupported assumptions.

a. Coal Creek's Baseline Emissions

Dr. Sahu asserts that GRE's NOx baseline emissions rate of 0.201 lb/MMBtu is not supported by emissions data. Dr. Sahu's error is likely due to his ignorance of GRE's proprietary DryFining™ technology and the timeline for its installation. Although operational in 2009, the technology requires fine-tuning and, once tuned, is able to maintain that level of performance. Optimization of the DryFining™ system was completed in June of 2010, and emissions reflected this optimization as of July 2010. As such, GRE utilized the period from July 2010 through October 2011 (when GRE's supplemental NOx analysis was performed) as a baseline because it represented routine operations for Coal Creek and was representative of expected future operations. Further, Sahu provides no explanation why such a minor change could or should result in any changes in the overall cost-effectiveness of SNCR or the lack of visibility improvements resulting therefrom.

b. High-Energy Reagent Technology (HERT®)

Dr. Sahu also asserts that GRE should have considered SNCR utilizing a specific process sold by FuelTech called High-Energy Reagent Technology (HERT®). HERT® is a patented injection process regulating the reagent delivery into the furnace. FuelTech Presentation, *SNCR Operation Workshop*, pp. 24, 60 (Feb. 7, 2011) ("FuelTech 2011 Presentation") (Attachment B). FuelTech recommends that SNCR using HERT® be coupled with over-fire air ("OFA") to introduce the reagent into the furnace or a source may utilize a separate blower to deliver reagent. *Id*. at 58. Per EPA's 2005 BART Determination Guidelines, 70 Fed. Reg. 39,164 n. 12 (July 6, 2005), GRE looked at the best-performing SNCR controls in use under "similar conditions," i.e., at facilities similar to Coal Creek Station. *See* 70 Fed. Reg. 39,165/1. Coal Creek Units 1 and 2 are identical, tangentially-fired Combustion Engineering designed boilers burning Ft. Union Lignite coal. The two electrical generators combined are over 1100 MW. In the course of its review, GRE included all types of SNCR, such as HERT®, to the extent they were best performing for sources similar to Coal Creek Station Units 1 and 2.

URS's recommendations were used to determine a control efficiency of 20% for SNCR and corresponding 0.15 lb/MMBtu NOx emissions rate appropriate for Coal Creek's size, firing configuration and existing NOx control strategy. Although EPA took issue with these figures, even EPA argued for only a 25% efficiency of SNCR in addition to existing controls and an emissions rate of 0.13 lb/MMBtu. *See, e.g.*, 77 Fed. Reg. 20,919 (April 6, 2012). URS's position is further supported by EPA's evaluation of the best performing utility furnaces with SNCR based upon EPA's Title IV Data (Attachment C). These SNCR-controlled utility units have an average NOx emission rate of 0.142 lb/MMBtu, but the list includes multiple supercritical units, which have a distinct design advantage that makes them inherently lower emitting than subcritical units such as GRE's Coal Creek Unit 1 and Unit 2.[1] Thus, the data confirm URS's determination that 0.15

[1] For a subcritical boiler (standard operational design consistent with Coal Creek Units 1 and 2), steam to power the turbine is derived by heating liquid water to its saturation

lb/MMBtu was a realistic assessment of how the best-performing SNCR would do at a utility furnace similar to those at Coal Creek. While EPA argued that the best-performing SNCR could perform slightly better, it was not by a significant margin.

Dr. Sahu's error arises from his assumption that the advertising material upon which he bases his entire argument describes a new technology. Had Dr. Sahu performed an independent investigation, he would have learned that HERT® is FuelTech's brand name for an SNCR injection system (similar to ROTAMIX® patented by Nalco Mobotech).[2] FuelTech 2011 Presentation at 24. FuelTech lists HERT® as one of its two SNCR technology options with the other being NOxOUT®. FuelTech's predecessor, which developed HERT®, similarly described HERT® as nothing more than "Advanced" SNCR. Advanced Combustion Control Presentation, *New Coal Burners and Low NOx Control Technologies*, p. 82 (Aug. 3, 2005) ("2005 ACT Presentation") (Attachment D).

Consistent with this, EPA's RACT/BACT/LAER Clearinghouse database does not have a listing for HERT® under any of the determinations; only SNCR is listed. So long as a source considers the best performing SNCR, as GRE and EPA did, there is no need to look at every possible variation of SNCR; by definition, the best-performing SNCR for units similar to Coal Creek Units 1 and 2 is the best performing regardless of the vendor, the marketing label used to sell the technology, or variations in how the injection process operates.

Dr. Sahu also failed to realize that HERT® is a well-understood type of SNCR injection process and has never been considered available or applicable to the larger pulverized coal boilers at Coal Creek Units 1 and 2. FuelTech obtained HERT® from Advanced Combustion Technology (ACT), who had installed HERT® in seven non-utility units by 2005. Since then, a variety of other commercial and industrial users have also employed SNCR systems with HERT®, although none of them resembles Coal Creek Units 1 and 2. An overview of various publicly-available documents confirms that HERT® has been in use for years but not at large utility boilers and not with the success claimed by Dr. Sahu:

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point and then isothermally heating the system, thereby causing the phase change from liquid water to steam (boiling). In contrast, a supercritical steam generating unit operates at such a high pressure that liquid water does not boil and is instead converted to a supercritical fluid, an intermediate fluid having properties of both liquid water and steam. Operation of supercritical units is typically more thermally efficient than operation of subcritical units, resulting in less fuel combusted for the same energy output and, consequently, a lower lb/MMBtu emissions rate (although not necessarily a lower overall emissions rate in tons).

[2] *See* FuelTech's March 5, 2012 10-K, Table of Defined Terms, available at http://www.sec.gov/Archives/edgar/data/846913/000119312512096880/d309745d10k.htm (last visited November 8, 2012).

- As of 2005, the five largest units (the largest being 180 MW) using HERT®/OFA only reduced NOx emissions to 0.21 lb/MMBtu. 2005 ACT Presentation, p. 81. At the time, ACT advertised that SCNR (HERT®)/OFA could reduce NOx emissions rates to 0.16 lb/MMBtu although ACT's only examples were from very small boilers. 2005 ACT Presentation, p. 84. None of these listed units are remotely similar to Coal Creek Units 1 and 2 in size, coal type, configuration, and baseline NOx emissions.
- In the summer of 2007, a power company reported to regulators that HERT® installed on a 120 MW unit had reduced NOx emissions to 0.14 lb/MMBtu. Comments of NRG Energy, Inc. on the Draft Report "Reducing Emissions in Connecticut on High Electric Demand Days (HEDD)," p. 3 (Attachment E). This involved an oil-fired/natural gas unit, EPRI Memorandum, *Review of ACT's HERT Post Combustion NOx Control Technology*, p. 2-9 (June 16, 2008) ("EPRI Memo.") (Attachment F). It thus has no bearing on units like Coal Creek Units 1 and 2, which are well-controlled and burn lignite coal.
- An ENSR BART analysis from January 2008 considered HERT® for use on several medium-sized boilers. Although the report distinguishes between HERT® and SNCR, a close reading confirms that HERT® was being used with OFA as a de facto SNCR/OFA combination. ENSR Corp., *BART Visibility Modeling Report for the Arizona Public Service Four Corners Power Plant*, p. 6-1 (Jan. 2008) ("ENSR Report") (Attachment G). For boilers of 190 and 253 MW, the HERT®/OFA controls were expected to reduce NOx emissions down to 0.207-0.229 lb/MMBtu. ENSR Report, Table 6-3. ENSR rejected the HERT®-based option because the resulting excess ammonia emissions were expected to degrade visibility. As with prior examples, Coal Creek Units 1 and 2 already achieve emissions rates better than these units expected to achieve with HERT®. ENSR Report, p. 6-6.
- An EPRI memorandum from June 2008 identifies 14 commercial installations and 2 demonstrations of HERT®, and the results of those installations were consistent with prior results. EPRI Memo. at 4, Table 2.
    - The largest boiler using HERT was 255 MW and was achieving emissions rates of 0.200 lb/MMBtu. HERT®'s performance generally improved as boilers got smaller with the best performance (0.100 lb/MMBtu) being at a 46 MW unit. EPRI Memo at Table 2.
    - Testing one of the 180 MW demonstration units confirmed that HERT®'s performance was susceptible to degrading rapidly as the unit went to full power. EPRI reported that "NOx reductions at full load averaged in the 20% to 25% range, while reductions at lower loads approached 50% to 60%." EPRI Memo. at 14.
- FuelTech's 2011 presentation confirms these earlier findings. It describes the application of HERT® at multiple demonstration units and several

small commercial units and obtaining results in-line with those reported in earlier documents. For example:

- FuelTech's SNCR performs notably worse at well-controlled sources. FuelTech's 2011 Presentation, p. 48.
- FuelTech never claims HERT® can achieve an emissions rate of 0.1 lb/MMBtu at industrial or utility pulverized coal furnaces; FuelTech cites only limited experience, none of which purports to be applicable to a large-scale utility furnace. FuelTech's 2011 Presentation, pp. 64, 66.
- FuelTech's sole utility example is a biomass-fired, circulating fluidized-bed boiler, which has no relevance to Coal Creek Units 1 and 2 given the well-understood technical differences between controlling NOx at the two types of boilers and fuel types. FuelTech's 2011 Presentation, p. 69.

This foregoing material confirms several key technical points:

- Neither ACT nor FuelTech have ever claimed that HERT® can reduce NOx emissions to 0.10 lb/MMBtu (or anything close) at a source similar to Coal Creek Units 1 and 2, i.e., a large (>500 MW) utility furnace; FuelTech confirms HERT® performs worse at utility boilers than it does at industrial boilers; FuelTech 2011 Presentation, p. 24; FuelTech is willing to guarantee that its SNCR systems can only obtain about half the reductions in utility boilers that it gets from industrial boilers; FuelTech 2011 Presentation, p. 27;[3]
- HERT® has only achieved 0.1 lb/MMBtu emissions rates from small (<200 MW) furnaces, at a small circulating fluidized bed boiler, and during isolated demonstrations.

GRE undertook a thorough search of publicly available data on the internet as well as publicly available data through EPRI for the use of HERT®. The data provided in the

[3] It is well-understood in the industry that "[a]t larger boilers sizes, the capability to uniformly distribute a chemical reagent, urea, or NH_3, throughout the furnace volume may diminish, which therefore, may negatively impact NOx removal efficiency." Srivastava, R. et al., *Nitrogen Oxides Emission Control Options for Coal-Fired Electric Utility Boilers*, 55 J. Air & Waste Manage. Assoc. 1367, 1374 (Sept. 2005). This paper goes on to confirm that SNCR's performance declines by as much as 50% as boilers get larger. *Id*. EPA's Control Cost Manual agrees that "SNCR systems applied to large combustion units (greater than 3,000 MMBtu/hr) typically have lower NOx reduction efficiencies (less than 40%) due to mixing limitations." EPA, *EPA Air Pollution Control Cost Manual, EPA/452/B-02-001*, Section 4.2, 1-3 (6th ed. Jan. 2002). Thus, SNCR's results from small sources cannot be extrapolated to large units without discounting the SNCR's expected performance.

following table are a compilation of these data sources. Table 1 does not present an exhaustive list of all HERT® installations, but rather a summary of the two primary publicly available data sources identified by GRE that cite HERT® installations. These two sources along with supplemental database references used to identify specific coal types and historical emissions are included as references to Table 1. As illustrated in Table 1 below, in practice, HERT® has tended to obtain emissions rates of roughly 0.2 lb/MMBtu at medium-sized boilers (~200 MW). Coal Creek Station Units 1 and 2 achieve these emissions levels already. GRE's analysis assumed SNCR/OFA could further reduce emissions to 0.15 lb/MMBtu, which is far superior to what HERT® has obtained in the real world.

Table 1

Stations/Unit Identification	Firing Type	# of Burners	Fuel [1]	Unit Size, MW	Baseline NOx, lb/MMBtu	HERT NOx, lb/MMBtu	NOx Min, lb/MMBtu [2]	NOx Max, lb/MMBtu [2]	Ref.
James River Unit 1 City Utilities of Springfield	T-Fired	8	Subbituminous Coal	25	0.35	0.20	--	--	[3], [7]
James River Unit 2 City Utilities of Springfield	T-Fired	8	Subbituminous Coal	25	0.350	0.20	--	--	[3], [7]
Blue Ridge Paper Unit 4 Blue Ridge Paper Company	T-Fired	12	Eastern Bituminous Coal	40	0.300	0.15	--	--	[3], [7]
Johnsonville Unit 4 TVA	T-Fired	16	Subbituminous Coal	135	0.390	0.15	0.176	0.302	[3], [5]
John Sevier Unit 2 TVA	T-Fired	16	Bituminous Coal	180	0.350	0.19	0.231	0.276	[3], [5]
Coal Creek Station Unit 1 GRE	T-Fired	64	Lignite Coal	590	0.201	NA	0.175	0.223	[6]
Coal Creek Station Unit 2 GRE	T-Fired	64	Lignite Coal	590	0.153	NA	0.140	0.168	[6]
Schiller Unit 4 Northeast Utilities	Front	6	Bituminous Coal or Fuel Oil	50	0.350	0.25	0.143	0.304	[3]
Schiller Unit 6 Northeast Utilities	Front	6	Bituminous Coal or Fuel Oil	50	0.350	0.25	0.187	0.312	[3]
Endicott Generating Station	Front	6	Bituminous Coal	55	0.600	0.15	0.185	0.256	[4], [5]
GenOn Energy New Castle Plant	Front	16	Bituminous Coal, Diesel	135	0.830	0.26	0.314	0.493	[4], [5]

Stations/Unit Identification	Firing Type	# of Burners	Fuel [1]	Unit Size, MW	Baseline NOx, lb/MMBtu	HERT NOx, lb/MMBtu	NOx Min, lb/MMBtu [2]	NOx Max, lb/MMBtu [2]	Ref.
W.H. Sammis Power Plant Unit 1	Front	15	Bituminous Coal	180	1.100	0.21	0.196	0.272	[4]
W.H. Sammis Power Plant Unit 2	Front	15	Bituminous Coal	180	1.100	0.25	0.185	0.243	[4]
W.H. Sammis Power Plant Unit 3	Front	15	Bituminous Coal	180	1.100	0.22	0.200	0.239	[4]
Clinch River Unit 3 AEP	Roof	14	Bituminous Coal	255	0.300	0.20	0.151	0.227	[3]
Philip Sporn Unit 3 AEP	Roof	10	Subbituminous Coal	155	0.320	0.20	0.213	0.299	[3]
James River Unit 3 City Utilities of Springfield	Wall-Fired	6	Subbituminous Coal	46	0.180	0.10	0.181	0.229	[3], [5]
James River Unit 4 City Utilities of Springfield	Wall-Fired	6	Subbituminous Coal	60	0.200	0.12	0.123	0.291	[3], [5]
James River Unit 5 City Utilities of Springfield	Wall-Fired	8	Subbituminous Coal	105	0.220	0.15	0.134	0.251	[3]

References

[1] http://www.eia.gov/electricity/data/eia860/

[2] Data from January 2011 September 2012 are the monthly averages. Only 12 possible values per unit. The monthly value is representative of a 30 day rolling average. http://ampd.epa.gov/ampd/

[3] EPRI Memo, "Review of ACT'S HERT Post Combustion NOx Control Technology," 6/16/2008

[4] http://www.netl.doe.gov/publications/proceedings/05/NOx_SO2/De-%20NOx%20workshop/ACT_2005.pdf

[5] Unclear whether unit continues to operate with SNCR.

[6] HERT not installed, units listed to demonstrate differences in size and baseline emission rates.

[7] Unit not included in the Acid Rain Program; emission data not available in Acid Rain database.

- The publicly-available percent reduction results for HERT® arise from installation of the technology at previously uncontrolled sources. There is no evidence regarding HERT®'s performance at already well-controlled, large utility sources.
- In reviewing FuelTech's website, there is no indication that they are a "leading" vendor as Mr. Sahu states in his comments (p. 9). They have several press releases for projects being sold, primarily overseas, but no mention of any recently completed projects, and notably no mention of any pulverized-coal-fired boiler projects achieving <0.15 lb/MMBtu. Further, few of the FuelTech announcements include any more than a mention of HERT®, suggesting that it is specialized technology with limited application to small, commercial units. This would explain why GRE was able to find so few examples of HERT® in use despite it being available for years and there being tens of thousands of boilers required by state and federal law to have NOx emission controls.

GRE was unable to find any evidence of HERT® installations on Coal Creek Station-sized utility boilers (>500 MW). We have no reason to believe that there are any successful applications of HERT® in similar-sized units. Dr. Sahu provides no evidence to the contrary. To the extent there have been any such installations, then they would likely be part of EPA's database for SNCR-controlled units and GRE and EPA already looked at the best performing sources using SNCR-type controls.

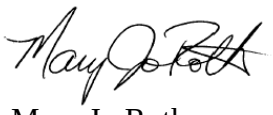
In any event, evaluation of HERT® would require additional engineering. FuelTech's online brochure concerning HERT® identifies that the necessary evaluation to get to the vendor's specification would involve Computational Fluid Dynamics/Chemical Kinetic Modeling (CFD/CKM), which would be a costly evaluation for screening a control option. GRE would need to make a significant additional investment to cover the cost of modeling. Based on EPA's BART Guidelines, sources are not required to obtain a vendor guarantee for each control, particularly for familiar controls such as OFA and SNCR where the Control Cost Manual includes data. Likewise, sources are not required to perform engineering studies to confirm that controls that have not been used on similar sources also would not work at their own source. Thus, even if HERT® was a discrete control option, which it is not, and if HERT were available and applicable, which it is not, then the 2005 BART Guidelines still did not require GRE to look more closely at HERT® given the engineering requirements necessary to do so.

Collectively, this material confirms that HERT® is a well-understood SNCR injection process that obtains good emissions reductions when used with previously uncontrolled, small commercial and industrial furnaces (although many other SNCR technologies do, as well). It is not unique, and there is no evidence that it should be expected to outperform the best-performing SNCR/OFA controls in-use at large, pulverized coal utilities. In fact, the available evidence suggests it cannot. In the event HERT® was considered separate from SNCR (and there is no reason it should be), there is no evidence suggesting it is either available or applicable for sources similar to Coal Creek Units 1 or 2.

Finally, GRE notes that Dr. Sahu's opinion that it should be assumed that HERT® could obtain an emissions rate of 0.1 lb/MMBtu is completely unsupported. Dr. Sahu does not mention a single utility using HERT® to obtain the emissions he assumes could be achieved at Coal Creek Station Units 1 and 2. Dr. Sahu does not discuss how HERT® would work (or indeed if it could work) with Coal Creek's unique boilers and existing controls. Dr. Sahu does not claim to have any experience with installation or operation of HERT®. Indeed, Dr. Sahu's failure to recognize the methodological flaws in extrapolating limited commercial and demonstration emissions results to a large-scale utility furnace undermines his claim to expertise in this area. No expert in SNCR controls at utilities would make such a claim; and if they did, they would include numerous caveats for the size and firing method of the boiler, existing NOx control strategies, and the type of fuel. Dr. Sahu failed to differentiate between the annual rate in FuelTech's promotional material versus the 30-day rate for BART limits.[4] In short, Dr. Sahu has offered nothing more than an unsupported, non-expert opinion, and the NDDH should weight it accordingly.

Please do not hesitate to call me if you have any questions.

Sincerely,



Mary Jo Roth
Manager, Environmental Services

Attachments:

- Attachment A – Graph of NOx performance for all ND units
- Attachment B – FuelTech Presentation, SNCR Operation Workshop (Feb. 7, 2011)
- Attachment C – EPA Title IV Data relied upon by EPA in Docket No. EPA-R08-OAR-2010-0406
- Attachment D – Advanced Combustion Control Presentation, New Coal Burners and Low NOx Control Technologies (Aug. 3, 2005)
- Attachment E – Comments of NRG Energy, Inc. on the Draft Report "Reducing Emissions in Connecticut on High Electric Demand Days (HEDD)"
- Attachment F – EPRI Memorandum, Review of ACT's HERT Post Combustion NOx Control Technology (June 16, 2008)
- Attachment G – ENSR Corp., BART Visibility Modeling Report for the Arizona Public Service Four Corners Power Plant, Table 6-3 (Jan. 2008)

c: Tom Bachman, NDDH
Deb Nelson, GRE

[4] EPA believes 30-day BART limits should generally be 5-15% greater than an annual rate. *See* 77 Fed. Reg. 20,919. According to EPA, a 0.10 lb/MMBtu annual rate would therefore be the equivalent of a 0.11-0.12 lb/MMBtu 30-day BART limit. Dr. Sahu did not even recognize this flaw in his purported expert opinion.